



# Future Uses of RFID Technology

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For all the hype, the  
future uses of RFID  
are going to be both  
pedestrian and  
useful



# Let's Be Precise...

- RFID tags are defined as
  - Using RF wireless technology
  - Transmit only a unique identifier
  - Using either passive or battery power
- RFID tags are not
  - Sensors
  - Actuators
  - Dumb computers

# RFID Today

- **Active RFID**
  - Automatic payment of tolls
  - Physical access control
- **Passive RFID**
  - Inventory and Supply Chain Management
  - Payment identifiers

# Tomorrow: More of the Same

- Passive tags will expand into
  - Pharmaceutical tracking
  - Extensive use in government supply chain
  - Military inventory management
  - Retail supply chain prior to purchase
    - Probably prior to the shelf
- Active tags will expand into
  - Military identification
  - More pay-as-you-go

# Technology Challenges

- The foreseeable future
  - Cost reduction
  - Cost reduction
  - Better chip/antenna bonding
- Beyond the foreseeable future
  - Transmission reliability
  - Reader reliability
  - Reader administration

# RFID Tags Are Bad Sensors

- They are good at
  - Telling you one thing
  - Being cheap
- But using them as sensors requires
  - Being really clever
  - Noticing second or third order effects
  - Being wrong a lot
- We will build sensor networks
  - out of sensors....

# Most People Won't Notice

- There may be some applications
  - Automated checkout
  - Product information kiosks
  - Shoplifting protection systems
- But not many because
  - The cost is too high (for the readers)
  - The benefit is minimal
  - The politics is ugly

# Let's Get A Grip, People...





# RFID is Important

- The technology has lots of promise
  - Greater economic efficiency
  - Superior control over goods
  - Convenience in certain applications
- But it isn't going to
  - Change our world
  - Be noticed by everyone
  - Change the way we compute



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